

WHAT IS CLAIMED IS:

- 1 1. A method for generating an electrical schematic,
2 comprising:
3 loading a schematic definition file;
4 determining circuit component placement relationships
5 according to the schematic definition file and a
6 component rule set;
7 creating a schematic output file corresponding to the
8 circuit competent placement relationships and the
9 schematic definition file, wherein the schematic
10 output file describes an automatically-generated
11 electrical schematic corresponding to the
12 schematic definition file.

- 1 2. The method of claim 1, further comprising loading a
2 circuit-requirements file, the circuit-requirements
3 file being in a first format, and generating a
4 corresponding schematic definition file, the schematic
5 definition file being in a second format.

- 1 3. The method of claim 1, further comprising displaying
2 an electrical schematic corresponding to the schematic
3 output file.

- 1 4. The method of claim 1, further comprising receiving
2 user edits of the automatically-generated electrical
3 schematic.

- 1 5. The method of claim 1, further comprising defining a
2 location of a first component of the schematic
3 definition file, and defining locations of a plurality
4 of second components of the schematic definition file
5 in relation to the location of the first component.
- 1 6. The method of claim 1, further comprising displaying a
2 three-dimensional image, corresponding to the
3 automatically-generated electrical schematic, showing
4 the relative three-dimensional location of multiple
5 circuit components.
- 1 7. The method of claim 1, wherein the schematic output
2 file includes both two-dimensional and three-
3 dimensional location data for a plurality of
4 electrical components.

1 8. A data processing system having at least a processor
2 and accessible memory, comprising:
3 means for loading a schematic definition file;
4 means for determining circuit component placement
5 relationships according to the schematic
6 definition file and a component rule set;
7 means for creating a schematic output file
8 corresponding to the circuit competent placement
9 relationships and the schematic definition file,
10 wherein the schematic output file describes an
11 automatically-generated electrical schematic
12 corresponding to the schematic definition file.

1 9. The data processing system of claim 8, further
2 comprising means for loading a circuit-requirements
3 file, the circuit-requirements file being in a first
4 format, and means for generating a corresponding
5 schematic definition file, the schematic definition
6 file being in a second format.

1 10. The data processing system of claim 8, further
2 comprising means for displaying an electrical
3 schematic corresponding to the schematic output file.

1 11. The data processing system of claim 8, further
2 comprising means for receiving user edits of the
3 automatically-generated electrical schematic.

1 12. The data processing system of claim 8, further
2 comprising means for defining a location of a first
3 component of the schematic definition file, and means
4 for defining locations of a plurality of second
5 components of the schematic definition file in
6 relation to the location of the first component.

1 13. The data processing system of claim 8, further
2 comprising means for displaying a three-dimensional
3 image, corresponding to the automatically-generated
4 electrical schematic, showing the relative three-
5 dimensional location of multiple circuit components.

1 14. The data processing system of claim 8, wherein the
2 schematic output file includes both two-dimensional
3 and three-dimensional location data for a plurality of
4 electrical components.

1 15. A computer program product tangibly embodied in a
2 machine-readable medium, comprising:
3 instructions for loading a schematic definition file;
4 instructions for determining circuit component
5 placement relationships according to the
6 schematic definition file and a component rule
7 set;
8 instructions for creating a schematic output file
9 corresponding to the circuit competent placement
10 relationships and the schematic definition file,
11 wherein the schematic output file describes an
12 automatically-generated electrical schematic
13 corresponding to the schematic definition file.

1 16. The computer program product of claim 15, further
2 comprising instructions for loading a circuit-
3 requirements file, the circuit-requirements file being
4 in a first format, and instructions for generating a
5 corresponding schematic definition file, the schematic
6 definition file being in a second format.

1 17. The computer program product of claim 15, further
2 comprising instructions for displaying an electrical
3 schematic corresponding to the schematic output file.

1 18. The computer program product of claim 15, further
2 comprising instructions for receiving user edits of
3 the automatically-generated electrical schematic.

1 19. The computer program product of claim 15, further
2 comprising instructions for defining a location of a
3 first component of the schematic definition file, and
4 instructions for defining locations of a plurality of
5 second components of the schematic definition file in
6 relation to the location of the first component.

1 20. The computer program product of claim 15, further
2 comprising instructions for displaying a three-
3 dimensional image, corresponding to the automatically-
4 generated electrical schematic, showing the relative
5 three-dimensional location of multiple circuit
6 components.

1 21. The computer program product of claim 15, wherein the
2 schematic output file includes both two-dimensional
3 and three-dimensional location data for a plurality of
4 electrical components.